

INFORMATION TECHNOLOGY POLICY

FOR

SETSOTO LOCAL MUNICIPALITY



INCORPORATING
NETWORK USAGE & SECURITY,
END USER SUPPORT & ACCESS AND
ALL INFORMATION TECHNOLOGY
TRAINING ISSUES

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Positon	Name	Signature	Approval Date
Municipal Manager	B.J. Mthembu		

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TABLE OF CONTENTS

TERMS AND TERMINOLOGY	5
1. INTRODUCTION	7
2. <u>MANAGEMENT OF IT PERSONNEL</u>	8
2.1 Purpose of the Policy	8
2.2 Hiring of Personnel	8
2.3 Training of Staff	8
2.4 Termination of Services	9
3. <u>NETWORK AND PC HARDWARE AND SOFTWARE</u>	10
3.1 Purpose of the Policy	10
3.2 Scope and Usage of the Network	10
3.3 Network Access	11
3.4 Network Services	14
3.5 Network and PC Support	15
3.6 Network and PC Hardware	17
3.7 Network and PC Software	18
3.8 Usernames and Passwords	19
4. <u>INTERNET POLICY</u>	21
4.1 Purpose of the Policy	21
4.2 Internet Usage	21
4.3 Internet Publishing	22
5. <u>ELECTRONIC MAIL (E-MAIL) POLICY</u>	24
5.1 Purpose of the Policy	24
5.2 E-mail Usage	24
6. <u>ANTI-VIRUS POLICY</u>	27
6.1 Purpose of the Policy	27
6.2 Anti-Virus and Applications	27
7. <u>SYSTEM DEVELOPMENT LIFE CYCLE</u>	29
7.1 Purpose of the Policy	29
7.2 Considerations of Custom Development Application Software and Upgrades of Existing Application Software	29
8. <u>DATA MANAGEMENT</u>	30
8.1 Purpose of the Policy	30
8.2 Generated and Input Data	30
8.3 Management of Generated and Input Data	30
9. <u>ASSET MANAGEMENT</u>	32
9.1 Purpose of the Policy	32
9.2 Usage of Information Technology Assets	32
9.3 Management of Assets and Recordkeeping	33

10.	<u>PATCH MANAGEMENT POLICY</u>	35
10.1	Purpose of the Policy	35
10.2	Prioritizing Windows Desktop Patches	35
10.3	Managing your Patch Testing Budget	36
10.4	Reduce Cost of Microsoft Patch Management Software	36
10.5	Using Third-Party Patches	36
10.6	The Cons of Third-Party Patches	36
10.7	The Pros of Third-Party Patches	37
10.8	Windows Patch Maintenance & Post-Patch Security	37
10.9	Rolling Back Windows Patches	38
10.10	Fixing Post-Patch Problems: Auditing Revision Levels	38
10.11	Optimize your WSUS Performance	39
10.12	Download Files When Available	39
10.13	Download Express Installation Files	40
11.	<u>FIREWALL POLICY</u>	41
11.1	Purpose of the Policy	41
11.2	Profile Settings	41
12.	CONCLUSION	43
13.	REFERENCES	44
14.	ACCEPTANCE OF POLICY	45

INFORMATION TECHNOLOGY POLICY **FOR** **SETSOTO LOCAL MUNICIPALITY**

TERMS AND TERMINOLOGIES

The following are network policies that will be strictly enforced on all computers connecting to the Setsoto Local Municipality network and/or any other government network.

First the terms and terminology used in this document is defined:

TERM	DESCRIPTION
User	This is the person using the computer (PC) whether it is connected to the network or not. This is also the person who is responsible for the computer.
Network	A network is a state where all the computers linked together function to share information and services. The network is used to gain access to resources such as a mainframe, network file servers, Internet, modems, printers and scanners.
User ID	It is the ID or name a user is defined with on the network. It is a unique name and will not have a duplicate on the network.
File server	A file server is a powerful computer used on the network running a network operating system enabling network users to access certain resources managed by the file server such as printers and hard disks.
Helpdesk	The Helpdesk is the function where first line support is given and where faults are logged for second and third line support. This function acts as the buffer between the network support personnel and the user.
Hardware	This is the physical equipment that can be touched and seen and includes the keyboard, mouse, system unit, screen and printer.
Software	This is the part of computers that cannot be touched but is loaded onto the hardware to give the computer the functionality to perform the given tasks.
Protocols	Protocols refer to the “language” spoken by computers to communicate data across the network. This is a technical term and users will not be required to use or configure this on computers as the support staff does this.
Mainframe	A mainframe is a very powerful computer that does all processing (“work”) on the mainframe itself. The mainframe is used to run applications and systems for use in the government that require high processor performance and storage space.
IP Address	This is the address of a computer on the network and the Internet. This address is and should always be unique to allow access to the Internet and Intranets globally.
MAC Address	The physical and unique address of the network card installed inside the PC that an IP address can be assigned to.
Pirate Software	This is software being downloaded or obtained for which there is no legal license certificate and no payment was made to obtain such a product. Such software is used illegally. This is software that does not fall under the freeware banner and that is charged for by the respective owners under international laws and treaties
International laws	These are laws made in other countries and by the use of certain software or abuse there-of makes the user directly liable, accountable and responsible for his/her actions in this regard. Charges may be brought against a person in accordance with these laws.
GUI	Graphical User Interface is an interface where pictures/icons or graphics are used for user input and general work.

TERM	DESCRIPTION
Firewall	A software program or hardware device coupled with software that blocks or attempt to block malicious attacks from crackers.
Proxy Server	A server granting access to the Internet from a network workstation that can cache content for easier and faster access later on.
Cache	Information or data kept in temporary storage for easier and faster access later on.
Freeware	Software that is free and requires no licensing fees.
Shareware	Software that can be used for free for a given period, usually 30 days, for evaluation. After the time expires the software must be either licensed or deleted. Penalties can be applied if this is not adhered to.
Licensed Software	Software that has to be purchased and registered in the user's name or that of the organisation. Penalties can be applied if this is not adhered to.
Internet	A service that provides for the sharing of information on a global scale.
Intranet	A service where information are shared within an organisation or department relevant to that department or organisation but not available globally.
Cracker	Usually malicious person who access a network illegally. He/she usually breaks down the network and places viruses to cover his/her tracks and to ensure downtime on the network.
Hacker	A person that can properly configure a PC, file server and network to run at its optimum performance and stability.
IT	The acronym for Information Technology. Information Technology is the handling, management and distribution of information using technology that can be either electronic or manual and range from the spoken to the written word. In this sense however IT refers to the utilisation of technology commonly known as computers and related equipment and software.
RAM	Random Access Memory is the temporary storage that a computer uses to execute commands and is normally used to improve a computer's performance and usability.
CPU	Central Processing Unit is a small to medium sized chip or card that is installed in a computer which makes the computer operational and that performs all tasks and processing on a computer.
HDD or Hard Disk	This is the permanent, magnetic storage media of a computer where data are stored and software applications installed.
FDD or Floppy Disk	This is a permanent type of magnetic storage device that is portable and that can be used to transfer data from one computer to another. These storage devices are incorrectly referred to as "stiffies" in South Africa and are prone to failure and data loss.
Memory Stick	This is a permanent, magnetic storage media that are replacing the use of stifty disks in organisations.
VGA Card	Standard to describe computer visuals or the screen card used in a computer.
Spam	E-mail messages in the form of advertisements sent randomly to users that can usually flood a network and crash mail servers and systems.

1. INTRODUCTION

This document dictates the use of the Setsoto Local Municipality's network and access to it. It has the stability and security of the mentioned network on the agenda and will ensure that as far as possible all actions on the network are lawful, legal and just. It also serves the community, the individual and the municipality as an entity. The regulations listed here in will be regarded as binding on each individual member of the municipality, whether contracted, employed, hired on temporary basis or elected to office as per government laws. No one is exempted from the rules and regulations here in that will in future be referred to as **the policy**, incorporating both user and network related issues, and will serve the mentioned municipality as a working document.

Any network support personnel that will take up employment with the municipality will adhere to this policy and where needed amend the policy to ensure that it stays in line with both national laws and international laws as far as Information Technology is concerned. It is important to include international standards, as it will ensure that the minimum industry standards are adhered to.

The aim of this document is to ensure a stable, safe and secure networking environment that will indirectly serve the community of the Setsoto Municipality in all its dealings. The network should at all times be available and operational to ensure maximum usage of the network and resources on the network.

Changes hereto should be made after consultation with the Office of the Municipal Manager that is concerned with Information Technology and not without his/her explicit consent. Any changes made to this document has to ensure that the organisation's main aims are adhered to and that no function is disabled or ignored. All changes have to be committed to this document and the document has to be signed by the mentioned person or his/her delegated member in the head of the department's absence.

2. MANAGEMENT OF IT PERSONNEL

2.1 PURPOSE OF THE POLICY

The purpose of the policy is to ensure that the municipality has the necessary skills available to perform the necessary duties as expected in accordance with government laws.

2.2 HIRING OF PERSONNEL

- 2.2.1 All personnel should be hired in accordance with government laws and policies based also on the skills and experience of such people. People hired for especially Information technology work should also be trustworthy and able to perform such duties. People that are known computer crackers or are known to make themselves guilty of such offences should rather not be allowed to have access to government networks and data. Such people will be considered security risks by the National Intelligence Agency. The municipality should also consider that appointing people without the relevant qualifications or experience could result in downtime for the network.
- 2.2.2 The municipality should employ personnel or have longer running contracts and not month-to-month running contracts as it could result in junior personnel attending the network and further result in security breaches. It would be advisable that people working on the network should be subjected to security checks and clearance.
- 2.2.3 Where contractors are hired to perform duties the relevant laws should govern such as local business but also it should be verified that individuals employed by the relevant contracting company are trustworthy personnel and have the relevant experience and training as well.

2.3 TRAINING OF STAFF

- 2.3.1 The staff of the municipality should be given relevant training to ensure that tasks expected of them are performed effectively and without problems.
- 2.3.2 Desktop application training should be provided to all personnel of the municipality on the products they are supposed to use on the computers. The municipality should ensure that only the relevant products are used and that training is only provided on products authorised by the municipality. It would be recommended that all personnel on all desktop products used maintain an advanced level of skills.
- 2.3.3 Support staff and contracting personnel concerned with the support and maintenance of the network and information technology should be allowed to undergo regular upgrade training. This includes providing time off for such training and examination and provision through agreement of funds to have such individuals trained and properly qualified.
- 2.3.4 The monthly skills levy paid over to national government can be used for all training. Where applicable officials should be given the choice of also furthering their studies within the local government and not with courses that cannot be used to the benefit of the municipality. The municipality should have contracts drawn up for employees to ensure that courses are paid for in years' service as applicable to all government employees. This will ensure that sufficient skills are available to perform tasks required by law.

2.4 TERMINATION OF SERVICES

- 2.4.1 When a person terminates his/her services by resignation the relevant cost should be recovered for courses or studies undertaken which have not been repaid in years' service. The law on public officials and municipalities should also govern in all aspects of personnel as well as the Basic Conditions of Employment with all relevant amendments.
- 2.4.2 Notice of such termination of services should be given to the Information Technology Support person to ensure that all data is properly protected and distributed to personnel that will handle such tasks in the absence of a replacement or while a replacement is sought.
- 2.4.3 When services are terminated due to death the relevant data and information under the control of the person must be reassigned to an acting member of staff. No passwords may be given to any member of staff. Access to transversal systems must be suspended immediately and notification must be sent to the systems administrator of such transversal system. A new person must then be appointed and trained to perform such duties.

3. NETWORK AND PC HARDWARE AND SOFTWARE

3.1 PURPOSE OF THE POLICY

The purpose of this policy is to govern the use of the network and computers or devices connected to the network as well as to inform of the legality of actions taken and what are expected of users and support staff.

3.2 SCOPE AND USAGE OF THE NETWORK

- 3.2.1 The network of the Setsoto Local Municipality is a government network as the municipality is a sphere 3 government institution. The network is to be used for official purposes only and no private work or data or illegal actions, things that are prohibited by national and international laws such as downloading movie files, music or software that is being pirated, is allowed on the network. This includes private downloads of movies, music in any format, software programs including games and other software for personal use and not for official purposes. None of these files may be kept on the network file server for sharing or made available on the network for any reason. Should such files, data or programs, contain any viruses and or backdoors for outsiders to enter the network illegally, all costs incurred to rectify this problem may be recovered from the official responsible for such a breach. Responsibility and accountability for the contravention of international and local laws will be for the municipal manager and mayor if the perpetrator(s) are not known. If the perpetrator(s) are known then they will be held responsible and accountable for all actions taken and can the relevant punishment for the contravention of such a law be made applicable to the person.
- 3.2.2 All personal computers (PC's), notebook/laptop computers, workstations, personal digital assistants (PDA's), cellular telephone and any other device not specifically listed here with which one can gain access to the network to store, retrieve or access data or programs at Setsoto Local Municipality are bound by this policy and the users there-of are bound by what this policy dictates. Not only is the user here-of bound by this policy but also by the National Intelligence laws and amendments there-of, laws prescribing government official's conduct and laws governing the telecommunications and electronic communications of this country as well as international laws where applicable. The network at Setsoto forms part of a secure network within the government network where secrets are kept and should be kept to protect the people of this country against foreign invasions and or terrorism. It is therefore to be kept a secure network without outside network access and all actions on this network should adhere to the National Intelligence Agency laws and amended laws and regulations.
- 3.2.3 The network comprises the physical cabling, points, hubs, routers and file servers as well as the cabinets in which they are kept, i.e. all the hardware. Along with this the network also comprise of all the software installed and used on the network file servers and workstation also called personal computers, notebook/laptop computers and handheld devices mentioned earlier that run software paid for by the municipality and used in the general mandate of the municipality. All physical and virtual connections that are created for the purpose of communication via computer are deemed part of the network.
- 3.2.4 This policy includes all persons that are part of the Setsoto Local Municipality as permanent employees, contractors or third party suppliers of services and temporary workers of the municipality.

- 3.2.5 No computer equipment (hardware) or software may be removed from the site without the consent of the relevant supervisor and/or Head of Department to ensure that the equipment and software are generally protected and safe at all times. The equipment may not be removed and used for private or personal use as it is the property of the local municipality and should be used in the service of the local municipality only and not to promote personal agendas.
- 3.2.6 No software that is licensed through the Setsoto Local Municipality may be installed on any private personal computer (PC), notebook/laptop computer or any other type of computer or device that can use such software and be used to access data and/or the network. All software can be used only for the Setsoto Local Municipality computers and installed on said computers. These licenses should be kept and controlled by one person that will issue only when software needs to be reinstalled or when a new computer has to be set up. All software used by the municipality must be recorded in a register and must be signed for when it is to be used by a support person for installation. Software may not be taken off the premises without the authorisation of the Office of the Municipal Manager handling the Information Technology for the municipality. All software that must be issued for installation to the support person may only be issued with a reference number of a job card for such support or software installation. The relevant register must be presented at the annual audit and verified against the job card or copy there-of kept at the office. The register aims to improve control over software and licenses as well as the installation of licensed software on computers. The licenses that have to be controlled are all software that are protected under US and/or international laws and treaties and that a certain premium has to be paid for. All illegal software must be removed from all official computers as soon as possible to ensure that the legally owned software only is installed on computers.
- 3.2.7 The municipality must decide on the route to take about the software to be used. The following software are authorised to be installed in the municipality i.e. SEBATA FMS, FINSTEL, MS OFFICE 2007/2010 PACKAGES, PC-ANYWHERE, ANTIVIRUS SOFTWARE, HOT VT 1.0 / 2.0, ACROBAT READER, VIP PAYROLL, BACKUP EXEC, CADDY and WINDEED. All unused and illegal software programs must be removed from the computers where it is installed in order to comply with the laws and the relevant license agreements

3.3 NETWORK ACCESS

- 3.3.1 All users of the network at Setsoto Local Municipality must be registered users on the network and must be created as users of this network on the file server in either directory services or just the file server with a valid username and password. This will ensure control and effective problem resolution at all times. All users must have an allocated space on the file server where data can be saved individually or collectively as a group of users working on one project such as Engineering. Only such data will be backed up regularly. This will also provide users with access to the network services available on the network.

- 3.3.2 The minimum user rights must be applicable in all instances when users are created since it can create a security breach on the network. Users should only have Administrator or equivalent rights on the server when they work on their own user directories or folders. The norm and default creation of a user is to be created with full control and access rights to the server under Windows NT and 2000. This is also the case with the newer Windows 2003. This can enable users to manipulate data and applications and can result in the corruption of data and or applications resulting in huge support and repair bills. The minimum rights assigned to all users will be Read rights and to Browse the network. Extra rights and privileges must be assigned only on request and where it is in the interest and explicitly necessary to have such rights. No user should be allowed to have control over the network and or file server(s) at the office unless such a person was employed for that specific task. This will ensure better control and also make sure that the malicious intend is reduced.
- 3.3.3 Each computer has to have a marked network point in the office where the computer equipment is installed giving access physically to the network and network services available.
- 3.3.4 Physical access to the network server room and file servers is prohibited for all users except relevant support personnel appointed in writing. In the absence of such person or personnel a delegate should be appointed to perform minimum functions as and when required. This person should preferably be a computer support person or have relevant knowledge to perform such tasks, even on file servers as and when required.
- 3.3.5 Access to the network is guaranteed and available during all office hours from 07:30 to 16:00 daily. The network must be accessible from 06:00 to at least 18:00 daily. Any deviation to this must be discussed with the relevant Head of the Department responsible for Information Technology and authorisation must be obtained for such a deviation. Access to the network after hours should as far as possible be restricted and where possible totally avoided. This is for the sake of safety and network backups. Should files be open during backups it will not be backed up and data loss may occur.
- 3.3.6 All users must use a password with their usernames or user ID's to access the network. The password should consist of no less than six (6) characters without repeating such characters more than three (3) times. The password can be made up of any combination of letters and numbers. Passwords should also expire every thirty (30) days and old passwords may not be used for at least five (5) months.
- 3.3.7 A properly implemented directory service should be implemented on the network to ensure better security and safety of data and information. The directory should provide access to relevant network services and exercise control over such services.
- 3.3.8 All users must be granted at least one (1) network connection and not more than that. If more than one connection is allowed for a user to the network then it could mean defeating the security system. This will allow network user names to be shared and even logged in more than once, exploiting the network and services without being able to pinpoint the guilty party.
- 3.3.9 No user may use the network username of the network support person or of another user with more rights than himself or herself. Where it is found that a user needs more rights he/she must apply for this from the Head of the Department responsible for Information Technology.

- 3.3.10 No user may use the Administrator or Admin user accounts or ID's to access the network. These accounts should be reserved for network administrators only and should also be controlled. The password of this account should be changed at least every thirty (30) days. The password should be kept in an envelope with the Head of the Department responsible For **Information Technology**. This account should only be used when necessary repairs are undertaken on the network and also when new implementations are to be done and the Administrator or Admin user account is necessary.
- 3.3.11 When a user leaves the employ of the municipality his/her user account must be locked on the last day of work. All official files or documents that user is the owner of must be copied to a location where it can be used and or updated. The relevant user account should then be deleted along with the user directory allocated to that user on the network file server.
- 3.3.12 When a user account is not accessed for a period of three (3) months that user account should be locked. When the user account is not used at all it should be deleted from the network and all files saved to a location where relevant personnel can access it.
- 3.3.13 All users should ensure that when they leave their workstations they log out from the network, especially if they will be leaving the workstation unattended for longer than ten (10) minutes. Especially where they access transversal systems or financial applications such as the Finstel program. It is important to remember an unattended logged on workstation may be used by a malicious person to gain access to the network. Even visitors may cause irreparable damage to the network or a financial system or may access information that is confidential. All data on the network should however be considered as confidential, especially when visitors are visiting the office for any reason.
- 3.3.14 No person other than the person the computer was issued to may use it. Officials may allow access to another official for purposes like accessing and verifying programs and data. Private persons may under no circumstances be allowed to use any computer or the computer network. Irrespective of the age and qualification of the person he/she may not access or use the computer.
- 3.3.15 All users will receive an Internet Protocol Address (IP Address) with which he or she can access the network and Internet. This IP Address is assigned permanently to the relevant user by assigning it to the relevant network card. This will ensure that the user has the relevant access he/she needs. When a network card becomes faulty care should be taken that the new network card should use the same IP Address. The faulty network card can then be sold or thrown away. Important to note is that there are companies and individuals that collect such cards and recycle it. This option can be explored to generate a revenue and use the funds where needed.
- 3.3.16 Users that will be away from work for long periods of time should inform the network support person to lock the user account so no one can gain access using that user account. This will ensure better security on the network and safety of all data on the file servers. The user can then request for unlocking the user account when returning to the office.

- 3.3.17 Where the municipality needs access to transversal systems at provincial and national levels provision should be made for this to occur effortlessly and security procedures are in place to ensure safety of data and applications. Only people that are registered and specifically granted access to such systems must be allowed to have the relevant software on their workstations/computers. The user account information and passwords should not be shared at all with any other member of the municipality regardless of rank, stature or designation. The person should not be hassled in any way to give such information as that person has undergone security checks where applicable and changes are registered on the system(s) against the user ID or account and the user will be held responsible for changes implemented on the system(s).

3.4 NETWORK SERVICES

- 3.4.1 Network services include all relevant and applicable applications that ensure the use and not abuse of the network. File services and printing services will be provided on the network as well as a backup service for official data and documents only. The saving of private data, applications and documents on the file server is strictly forbidden and will be removed without notification to the relevant owner. Although the individual has a right of privacy the file server is a public entity and environment that has to be respected and will only be used for saving official data and documentation. All documents saved on a file server, whether in a user allocated space or not will be deemed public property and can and will be removed from the server without notification to the owner of the file. There will be no privacy statements and/or claims of files saved on the file server.
- 3.4.2 Printing services are there for the explicit use of the municipality in the execution of the duties there-of according to the relevant laws and regulations. Private printing and printing of private and personal files, documents or data are prohibited and can lead to disciplinary action with regards to the abuse of government property and/or illegal contravention of network and government security. All users may use appointed printers and printer devices such as photocopiers that can perform the functions of a network printer. Printers to which restrictions have been added are deemed off limits to all except the persons appointed as users of that particular printer and/or printer device. One such occurrence may be printing to the colour laser printer.
- 3.4.3 Only relevant network services and clients must be run on the government networks and installation of other services and clients are prohibited. This may allow for the network to become insecure and unstable and cause downtime.
- 3.4.4 All users on the network will receive a specified amount of space on the network file server where data may be stored. Such folders or directories are subject to regular audits and investigations and should contain only official data or work related information. All private and/or personal data with the exception of curriculum vitae (CV) are prohibited on the server.
- 3.4.5 The directory services implemented should ensure control and ensure that all relevant information is safe on the network. It should also be monitored regularly to ensure that there is no abuse of services or devices. Where abuse is found it should be properly investigated and acted against to ensure the municipality is not exploited or exposed as an organisation abusing public funds.
- 3.4.6 Network expansion should be allowed to allow for handheld devices to connect to the network. Such devices must adhere to all the security measures employed at the municipality.

- 3.4.7 The network provides every user with a valid Internet Protocol Address (IP Address). This address is sometimes linked to certain services and access options and should not be swapped out between users. Such addresses can be assigned dynamically via DHCP server or statically assigned on the workstation itself. Users should not use each other's IP Addresses to gain access to certain services but should apply for access to such needed services via memorandum to the Office Of the Municipal Manager responsible for Information Technology.

3.5 NETWORK AND PC SUPPORT

- 3.5.1 The appointed network support personnel should undertake all network support only and no user may interfere in such actions unless appointed to do so in writing by the Office of the Municipal Manager responsible for Information Technology. This is to ensure that where support contracts are running and paid for the municipality gets the relevant service from the provider. The service provider may refuse such work when there is interference from the client and this may cause disruption on the network. When a support company is used there should be one person appointed to liaise with the company from the municipality and all actions should then flow via this person. This is to ensure responsibility and accountability for work done on the network. Where a person of the municipality becomes skilled in an area that could assist the provider he/she may be approached via the liaising person for such information to assist when such skills are not readily available. Care should be taken that the support provider does have the necessary skills or access thereto to perform all necessary duties in this regard. The support provider may escalate problems but care should be taken that trustworthy people are used and not potential network threats. If the municipality makes use of employed personnel the municipality must ensure that the relevant helpdesk and call support structures are in place. Care should be taken that a call that cannot be resolved locally be escalated to properly trained and trusted personnel and not to people that are known to exploit such instances.
- 3.5.2 All support must be performed against a logged call with the detail of the call that was logged. Such a call should then be attended to as per request and written off after resolution of the fault. A copy of the job card should be kept with the liaising personnel member to ensure that the work was performed to standard and satisfaction.
- 3.5.3 All network support should be given priorities and should be attended to immediately. All calls where all users are affected should be attended to immediately. A list with the priority work should be drawn up and attended in that order if and when it occurs.
- 3.5.4 It is the responsibility of the computer user to log any faults with the computer or the network that he/she may experience. Faults that are not logged will not be attended to and the network support personnel or service provider cannot be held responsible for such faults or problems. Faults mentioned to the support person verbally cannot be seen as an official logged call and a fault has to be logged irrespective of the response from the network support person or company. Faults attended to without a job card and official fault log can be deemed as free of charge and may not be paid for. The support person or provider should therefore ensure that all work he/she does are properly logged and documented.

- 3.5.5 No user, irrespective of his rank or stature are allowed to approach the support person directly when faults are logged through a helpdesk to ensure that favors are not part of the operation. As stated above only work that is logged will be and should be paid for. No person may under any circumstances make use of the support person or provider company to repair privately owned personal computers during official times and have such bill be sent to the municipality. The only exception is where this was agreed to in the person's contract and this would be part of the person's benefits. All privately owned personal computers or devices are to be repaired outside of the contract with the municipality and would be for the account of the relevant person. Should a company be used and they decide to provide a support person for private repairs as needed this must be done then outside of the agreement with the municipality and are for the account of the person himself/herself. A separate person and not the person allocated to perform the support duties for the municipality on the day should also do this. Where the municipality employs a person that person are not allowed to perform any private duties within official working hours, irrespective of the requester. That will include all members of the executive committee, councillors, the mayor or any other person that forms part of the municipality. Such a person may also not bring in private work to be performed during official working hours. Such actions will be seen as a contravention of the agreement or service contract.
- 3.5.6 The municipality has to support or provide for support on all the local area networks (LAN) it has and that are part of the municipality. All Wide Area Network (WAN) connections are the responsibility of the relevant service provider like I.E.C. for one or a private service provider that an official agreement has been entered into.
- 3.5.7 Only recognised and appointed support technicians are allowed to work on computers of the Setsoto Local Municipality. No other person, regardless of connection, stature, rank or qualification may work on any computer or computer equipment belonging to the Setsoto Local Municipality unless the problem was escalated to the person by either the support person or the Office of the Municipal Manager responsible for Information Technology in writing and the escalation was favorably accepted.

Only work directly requested from the support person or company will be performed and no extra work may be done at all. For instance when both a software problem is experienced and a hardware problem both should be listed and reported. If this is not done only the reported problem or fault will be dealt with. If no job card exists for a fault experienced such a fault must first be logged before it is being attended to. This has to be done in order to assist in the recordkeeping of expenditure on computers and related equipment. No support task may be undertaken without such a job card.

3.6 NETWORK AND PC HARDWARE

- 3.6.1 As stated above all computer equipment that forms part of the network or that are used on the Setsoto Local Municipality and that was paid for or donated to the municipality are the property of the local municipality. The equipment is there to provide certain services to the users on the network and to enhance the service of the municipality to the community.
- 3.6.2 None of the mentioned items may be removed individually or in-group from the site without the explicit consent of the Office of the Municipal Manager responsible for Information Technology. All network equipment is to remain on site unless the Office of the Municipal Manager responsible for Information Technology authorise such a move when necessary for repairs, replacement and/or reconfiguration. All other equipment may be removed with the consent of a delegated person but network equipment will not be part of this. If it is an emergency another Head of Department that is taking care of the duties in the absence of the appointed member should give authorisation. This is done to protect the network and services as well as data on all file servers.
- 3.6.3 Under no circumstances may any person use any file server as a workstation to perform his/her duties. The server is and should be a dedicated server and network service provider to clients on the network. Its resources and processes should not be logged by desktop applications run on the network file server.
- 3.6.4 No user irrespective the rank or stature is allowed to remove network cables from the network or server or even computer for use elsewhere. This can be seen as sabotage or theft to disrupt network services and are subject to disciplinary action against such a person. Theft will be subject to the relevant laws of the country for which jail terms may be applicable.
- 3.6.5 All computer and network hardware must be subjected to a service every six (6) months and a certificate must be issued that shows that all fans are working properly, are clean and excessive dust have been cleared away. It should also involve the hard disks and any other component of any network device and computer. This is done to lengthen the life of equipment and ensure that problems are minimised.
- 3.6.6 All computer equipment that are broken or fail as a result of rough handling and/or abuse can be recovered from the relevant person guilty of such an offence. Care should be taken in such proceedings that all relevant avenues have been explored to educate and train the person as to ensure that the safety of the equipment is priority. Unnecessary rough handling is something that has to be checked into and abuse and abusive actions should be sternly reprimanded. If the user persist with this action the relevant steps should be taken immediately and such equipment should be taken away from that person, irrespective of his/her duties.
- 3.6.7 Theft of equipment should be reported to the relevant authorities and should be dealt with. Care should also be taken that security measures in place are adequate and that measures implemented are cost effective and efficient.
- 3.6.8 Where computer equipment have to be moved from one location to another the relevant information should be given to the support person involved at least thirty (30) days beforehand. This is to plan for any contingencies such as movement or installation of cables and also expansion of existing equipment. This can also provide time to acquire new equipment should this be necessary or the relocation of current equipment and the reconfiguration there-of. Reconfiguration of equipment is very important as to ensure that when the actual move takes place the items can be plugged in and will work without major disruptions in work.

- 3.6.9 Support personnel should be consulted on the purchase of new hardware to ensure that the new hardware can work with current hardware and also the network and network software and that the new hardware will not cause downtime on the network.

3.7 NETWORK AND PC SOFTWARE

- 3.7.1 All network and personal computer software installed on the file servers and personal computers acting as workstations on the network are deemed licensed and the property of the Setsoto Local Municipality. All privately owned software must be removed from such computers and file servers regardless of the use there-of. The Public Administrations Committee issued instructions that only official software is allowed to be on any government computer, regardless of the use there-of. Since this is also a government office such instructions must be adhered to in order to avoid further steps taken.
- 3.7.2 All computer software that are licensed and used at the municipality must be listed in a register and properly issued to a user. Licenses that are left over afterwards should be declared and not issued for private use or privately owned computers unless specific provision was made for such installation in a government law on national level. No local government laws may dictate such steps; as such registers must be subjected to national Treasury inquiries and inspections as well as that of the Auditor General. Failure to submit such registers may result in penalties and/or subpoena to give evidence before the Public Accounts Committee.
- 3.7.3 Only relevant, official software may be used and installed on computers. No games or any type of gaming software or activity pack or entertainment software may be installed on official computers. This instruction was given under Public Administrations Committee as to ensure improvement of work performance and better utilisation of especially computer equipment. That entails that even games that comes with the operating system are not allowed to be installed for any purpose. Training computers may have such software installed for reference and specific training only. Common complaints from public were that government officials spend more time playing computer games than attending to the needs of the public and the community as a whole. Regardless of whether the executive committee allows games on computers or not this statement should be taken into consideration as it reflects negatively on public officials and government as a whole.
- 3.7.4 Management software may be installed and implemented on the network and all connected computers to ensure better control and management and administration of the computers. Audits may be done from time to time and should it be found that illegal software are installed on such a computer it will be removed without prior notification. The law states that each person should have the right to privacy but a government network and computer is a security area that no personal or private information may be kept for any purpose.
- 3.7.5 All software that are planned to be installed or upgraded on the network must be communicated at least thirty (30) days in advance to the Office of the Municipal Manager responsible for Information Technology. A proper project plan must be submitted as well as all downtime planned and the affected workstations of the municipality as well as how they will be affected. This will ensure timeous notification and planning can be done to overcome negative affects of downtime. This will also ensure that there is a continuation of services regardless of the downtime.

- 3.7.6 It is not recommended to install and configure themes of any type on computers as it does have a negative affect on the performance of both the computer and the network as a whole. Computers and software should be kept standard as far as possible or display only screensavers that will enhance the municipality's image. Desktop themes that slow performance must be removed as it will lead to requests for faster computers and can result in unplanned expenditures. It is known that government officials elsewhere have in the past installed such themes and software to show the inadequacies and lack of performance of computers purely to receive newer computers.
- 3.7.7 No BIOS or screensaver passwords are allowed on computers of the municipality unless it is stated that the relevant computer is a security risk and has to be protected. Such passwords should then be made available to the relevant Head of the department or office manager and used only in the absence of the relevant user if data is needed urgently from that computer.
- 3.7.8 The support personnel should be consulted before new software is purchased as system requirements should be adhered to and also network standards should be considered. In some cases newer software cannot work with already installed software off the shelf and relevant patches should be downloaded or obtained before such software is installed and implemented. Consulting the support staff will ensure that the matter is investigated and that all considerations are taken into account to lessen the downtime and ensure that there is no extra software and hardware needed for the software to work properly. The support personnel should also ensure that the network would not be negatively affected by the planned software's installation and usage. All systems should have windows update enable for regular updating of patches and updates to the system.

3.8 USERNAMES AND PASSWORDS

- 3.8.1 All users must have a proper username and a password as mentioned elsewhere in this document that will grant them access to the network and network services available on the network. The name must be compiled in accordance with the naming standards that are authorised and agreed to for the network.
- 3.8.2 The username must be in accordance with standards used in all other government levels and departments to ensure a standardised network that can be easily managed and supported and that will adhere to policies and procedures from the National Intelligence Agency and relevant intelligence laws applicable to all levels of government and also organisations that are seen as key infrastructure for the government and the country. One example is to use the surname of each person and the initials of the person. The first seven (7) characters of the surname is used and one initial, normally the first. If there is a duplicate username the second initial is used. If there is still a duplicate the whole surname is used or parts of the first name, not only the initial, until there is no duplicate username. In some cases it may be that the people have the same names and surnames and seniority can then be used to differentiate or a nickname by which one of the people is known may be used with the normal username make up. Only the initial should then be used to differentiate. Care must be taken that nicknames are not derogatory to a person or humiliate or offend that person but must be accepted by the person. Where possible however this must be avoided. Care should also be taken that the username does not exceed ten (10) characters as it may encounter problems on some systems and could create problems. The minimum password length must be six character and the maximum twelve characters and should include alphabets and numerical characters.

- 3.8.3 No user may offer his/her username and password to any person, regardless of rank or designation, to access the network or any network resource available on the network. All users should subsequently be limited to have only one (1) connection to the server and all other network services. Only through application and permission given by the Office of the Municipal Manager responsible for Information Technology may more than one connection be granted to a user. No user may also use another user's user account (username and password) to gain access to the network for any reason. In such cases the user account must be locked and the case be reported to the relevant Head of Department. It may not sound serious but it was found in many other cases before that individuals using another person's user account committed fraud, corruption or sabotage and such cases had widespread repercussions. Therefore such measures are employed to prevent such actions rather than to cure the results of such actions.
- 3.8.4 No user is allowed to use the Administrator user account to gain access to the network unless the person has been appointed in writing as the network administrator and have completed the relevant courses in this regard. Accessing this account will give access to areas that should not be accessed by users and may lead to misconfigurations that could incapacitate the network and bring about unnecessary downtime on the network. Downtime that is brought about by users through either intended and/or malicious actions may ensure that the users are charged for the support in order to repair such damage. Since this account has access everywhere on the highest levels contravention of this policy should be reported to the Office of the Municipal Manager responsible for Information Technology and the relevant department whose member contravened the policy.
- 3.8.5 Where people leave the employ of the municipality they should be given the chance to remove any private and personal information from the computer and also ensure that data on the server is official data and not personal data. The user account must be locked for a period of thirty (30) days and e-mail received should be forwarded onto the new address provided. This period will also ensure that the relevant data is copied to the personnel that would need it and allow for the reallocation of personnel where applicable. After this time the user account should be removed from the file server and the system synchronised and updated to reflect the relevant changes.
- 3.8.6 All users must use a password to access the network and users should be forced to change all passwords every thirty (30) days. This will ensure a better measure of control against illegal outside attacks and provide a more secure environment. Apart from forced changes no password may be used concurrently and unique passwords must be chosen. Passwords should not be repeated for at least 5 months or cycles of password changes.
- 3.8.7 All inactive user accounts that are found to be inactive for longer than thirty (30) days should be disabled and locked. This means no access will be possible. It will then force the user to request a password change and reactivation of the user account. User accounts that are inactive for longer than 3 months should be deleted from the system. The data contained in a home directory of such a user should then be copied to a location where it is accessible to other users.

4. INTERNET POLICY

4.1 PURPOSE OF THE POLICY

The purpose of the policy is to assist in the control of and access to the Internet and the publishing of information.

4.2 INTERNET USAGE

4.2.1 The use of the Internet is subject to the relevance of it to the employee's job function and work. The government does not allow access to sites that are not work related or that can degrade the service and image of the government locally, provincially or nationally. All Internet sites accessed must be work related as far as possible. The Internet should be used as a tool to promote the image and responsibilities of the municipality and to ensure that it can provide a better service to the whole community.

4.2.2 The government has through criticism and in some cases laws directed that the following sites are not to be accessed from government computers as to protect the government against such criticism:

- Web sites that contains nudity of any type (hard core, soft core, sex or other pornographic content not mentioned specifically, including so-called art oriented nudity).
- Web sites that promote or display any type of nudity, sexual actions and graphics of children and persons considered children under the laws of the country. Where this instruction is ignored the person opens himself/herself not only to departmental disciplinary action but also to criminal prosecution.
- Web sites that displays violence to promote violent behaviour or attempt to disgust and/or upset members of staff and the public visiting the offices.
- Web sites with content that promotes action against the government or organisations that are protected under government laws.
- Web sites that promotes propaganda against any person or group of persons that are protected by law.
- Web sites that seeks to discredit any organisation, statutory or private.
- Web sites that allows for the use of government computers to perform illegal actions such as distribute software or music for example Kazaa and other similar sites where information is illegally shared over the Internet.
- Web sites that has the aim of illegally accessing the user's computer or gain network access where the user works.
- Web sites that enables the user to play games online and that will abuse available bandwidth to such an extent that the normal work of employees are negatively affected.
- Web sites where people can communicate socially over the Internet in chat rooms or using a client to enable such actions like MSN Messenger, Yahoo! Buddy, etc.
- Web sites that deals in illegal products or content.

The management of the municipality has discussed and agreed that the use of the Internet for sites not belonging to any of the above-mentioned criteria and that is not work related will not be prosecuted provided that visiting such sites does not negatively affect the operation of the person and/or department. This is where Internet services are available at present. New installations will not be granted on the premise of accessing the Internet because of the above-mentioned statement. The government laws and direction should in all cases still be adhered to and applied to ensure good

governance and control over government funds and time. Internet access will not be allowed where a job function does not allow such access.

- 4.2.3 All users may have access to the Intranet of the municipality or other Intranet agreed upon by management of the municipality. Access to the Internet is only granted on application where such access is necessary for the completion of tasks for such members of staff.
- 4.2.4 Users of the Internet are not allowed to download music in any format, movies or any software that are deemed licensed software for personal use and or retail purposes. This is in direct contravention of copyrights and anti-piracy laws internationally and can open the official to criminal prosecution. No user may utilise government equipment for such actions. This includes using government issued compact disk rewriters (CD-RW) to reproduce music or movies for any reason, including but not limited to personal use or retail of such content. This will also include reproduction of such content for official use where no explicit authorisation was granted or obtained for the reproduction of such content to benefit the department or organisation. Where it forms part of a presentation that aims not to discredit but educate without contravening the copyright of such content but rather enhance the organisation or department without having the content as the main focus such content may be recorded for use by the relevant personnel only. Where such content is to be used publicly the necessary authorisation must be obtained for the use of such content.
- 4.2.5 Users with Internet access may not have any or all of the following applications installed on their workstations/computers as it abuse available bandwidth and can be used to defeat security systems and software in place:
- mIRC / Streaming of Internet Radio,TV Channels
 - ICQ / MSN Messenger / Delicious
 - Yahoo! Buddy& Messenger /Companion / Google Chat / You Tube
 - MSN Messenger / Skype / Facebook
 - AOL Companion / Bing / Twitter / My Space / Digg
 - BonziBuddy / Bleet Box / Bebo
 - Any other IRC-related application not mentioned here, except that which may be allowed by management that will be part of communication packages in place on the network such as a relay agent shipping with programs such as GroupWise, MS Outlook and MS Exchange. Such programs are guaranteed as secure communications by their owners and will not aim to defeat the security systems and software installed and implemented on the network.

The mentioned applications have been found to carry intruders successfully into secure environments and can disrupt network operations and cause downtime or add to the distribution of computer viruses.

4.3 INTERNET PUBLISHING

- 4.3.1 All content to be published on the Internet must be authorised before it is published as information that are considered sensitive may result in public uproar and action against the department or municipality. No information may be published without the authorisation of the office manager or his/her delegate.

- 4.3.2 The publishing of information on the Internet should be done only by one person or institution or company to avoid duplication of tasks and to ensure accuracy of information. This will ensure that only relevant information is published on the Internet and that information has been cleared through the relevant channels to be published. If outside personnel do the web publishing then it is imperative that one person be appointed to liaise with the company, person or organisation responsible for publishing the information to ensure that all work done are according to the wishes of the municipality or department.
- 4.3.3 The publishers of information should ensure that the server being used is secure and properly protected against illegal outside access. No web page published on Microsoft Internet Information Server should be considered safe and extra precautions should be taken to safeguard the server against illegal outside access. The Internet Information Server and all upgrades there-of has been shown to have security issues and allow illegal access to the server and network.
- 4.3.4 The information that should be published and be publicly available according to government laws should be made available on the web page for all Internet users to see and access. This should also be published on the Intranet page to ensure that it is accessible to all.

5. ELECTRONIC MAIL (E-MAIL) POLICY

5.1 PURPOSE OF THE POLICY

The purpose of the policy is to govern, control and assist in the use of electronic communications using electronic mail and to raise awareness of actions that is done using e-mail and the steps that can be taken in such instances.

5.2 E-MAIL USAGE

5.2.1 Electronic mail or e-mail should be seen as a privilege and not a right. It is therefore imperative that the user should ensure that his/her e-mail access is kept official and at all times devoid of profanity, obscene, racist, defamatory, abusive or threatening, discriminatory or otherwise biased remarks or content, lies to discredit the municipality or any individual that acts as representative of the municipality or government and propaganda to discredit any person or group of people or party in any way. Municipal computer users should also not distribute or forward any content that is sexual, pornographic, biased, offensive or violent to disgust or that can be viewed as inappropriate or illegal content. The principles of good governance should at all times be adhered to and practiced without exception. All e-mail messages that consist of files that are copyrighted and therefore illegally distributed via e-mail are deemed illegal and steps can be taken not only disciplinary but also in a court of law against offenders. It is also illegal to send information that is derogatory to any person or messages of sexual harassment via e-mail to any person, either within the municipality or outside. It is also illegal to read any e-mail message intended for a specific person, unless specifically instructed or requested to do so. Where people allow other access to their e-mail messages it should be noted that permission is given to read messages received via e-mail and therefore it is not deemed illegal to read any message received. People making use of proxy connections to other personnel's mailboxes should therefore rather be appointed in writing to accept and read e-mail on behalf of the person. It is also deemed illegal to send e-mail that contain user accounts and passwords to persons not on the network or not members of the network, especially if those accounts and passwords grant access to the network with administrator or equal rights and the intended party uses it illegally. When instructed to do so such information may be sent via e-mail but only on instruction by a member of senior management. All users should note that in some cases the steps that can be taken include jail terms and such actions may be criminal and will be prosecuted to the fullest extend of the law as to show a no mercy towards public officials abusing the privileges they have at the work place and to show a firm stance against criminal elements in the community.

5.2.2 E-mail users should not distribute any e-mail that can harm the network of Setsoto Local Municipality or any other government organisation or department or private network. Distributing such programs or content can be viewed as sabotage and relevant proceedings may be entered into against the person.
It is important to note that the government will under no circumstances protect an individual or group of individuals that do not adhere to the laws of the country or disobey any instruction, written or verbal, to ban certain activities or actions. People that do make themselves guilty of such actions will face prosecution and may have to serve jail terms for such actions.

- 5.2.3 All e-mail messages should be kept to a maximum size of about 1 megabyte or less. This will aid in the necessary bandwidth being conserved and utilised for important transfers. Users are also requested to keep private e-mail to the absolute minimum and all users are hereby informed that on all government networks monitoring software may be installed and used to monitor all electronic communications in accordance with the Intelligence acts and to ensure that the country is properly protected against terrorism of any type. Although there is an act that states that e-mail messages may not be monitored it is not the case on a government network as it is a public network with access points into the intelligence centres of the country and it should therefore be protected. The only provision is that content may not be made public if it is not considered a threat but statistics can be used for non-performance of officials where applicable.
- When larger e-mails are to be sent or received the support personnel should be contacted and informed as to ensure that the message is properly uploaded or downloaded and not discarded by the system.** Mail systems today are commonly configured to receive mail messages of a predetermined maximum size only and e-mail messages, whether work related or not that exceeds that size are immediately discarded. Notifying the support personnel will ensure delivery or receipt of the needed information via e-mail.
- 5.2.4 Users are allowed to use any e-mail client to send or receive information provided that the program is accepted and supported by technical support staff or the company employed to perform such tasks. The user should also note that only the authorised e-mail clients will be supported and no other.
- 5.2.5 Users may not send out virus warnings if it was not cleared with the relevant support person or company. Users should not send out such forwarded messages as it is usually hoax viruses that aim to flood e-mail systems and servers through sheer volumes than propagating itself. Such mails are usually not stopped by mail monitoring software as it does not contain viruses but acts as viruses and have a similar effect.
- 5.2.6 Users that distribute computer viruses via e-mail may be held responsible for charges in ridding the system of such computer viruses, especially if it was sent knowingly that such e-mail contained a computer virus or viruses.
- 5.2.7 Users should inform the support personnel or company of any strange content or e-mails received from known and unknown sources, especially when the mails contain attachments that are executable files or part of applications or application extensions or even screensavers. Such attachments may be disguised computer viruses and may wait to be executed to infect a system and redistribute it to other recipients. E-mails received from unknown sources or that is conspicuous by nature should be deleted immediately and also deleted from the recycle bin within the e-mail program. Other known and quite often-received viruses comes in the form of Word documents or even Excel spreadsheets and are macro viruses that negatively affect the Word or Excel applications. These viruses can damage documents and files that are opened and corrupt it to such an extent that the information contained there in is lost.
- 5.2.8 All users must make sure of the security classification of documents sent via e-mail and ensure that the documents may be sent via e-mail. Where documents are sent with sensitive information the relevant support personnel should be contacted to ensure that the mail is sent encrypted and that sensitive information is received by the intended recipient only and can be read by that person only. Encryption is a way to send information securely via an e-mail system without the fear of being read by people that should not have access to such information.

- 5.2.9 E-mail should as far as possible not be allowed to accumulate on the file server as to conserve disk space and ensure proper use of the file server.
- 5.2.10 The municipality's Internet Service Provider is required to keep e-mail and/or headers for a specified time. The timeframe is yet to be fixed and it could come down to the organization to hold such information for a specified period. This is required by law and should be considered when accumulating e-mail and other data on file servers. A formal instruction will be issued to inform of such actions to be taken. This will be in accordance with the intelligence and information availability acts of the country.
- 5.2.11 No e-mail message intended for a user may be published unless instructed to do so for the sake of feedback to members of staff of the department or municipality as a whole.

6. ANTI-VIRUS POLICY

6.1 PURPOSE OF THE POLICY

The purpose of this policy is to ensure the protection of all computers and data on the network by implementing steps that are precautionary and not remedial. This includes computers making outside connections through secure channels and not through the file server.

6.2 ANTI-VIRUS APPLICATIONS

- 6.2.1 The municipality should have in place an anti-virus strategy that will protect or aim to protect all computers on the network or connected to the network either via cable media or through wireless connections. All computers should have anti-virus applications installed to guard against the threat of computer viruses. The strategy should include not only the file server but also all computers that connect to the network at the Setsoto Local Municipality.
- 6.2.2 The software should be configured to monitor new connections and to immediately install a version of the software decided upon to be used for protecting the network. The installation should be done before access is granted to network services, therefore during the start-up and logon procedures. It should also then upgrade the anti-virus pattern files and scan engine to be the latest versions available.
- 6.2.3 All computers that connect to the Setsoto Local Municipality network should be protected against viruses and therefore regular updates should be made available and done on all computers at least once per week. This will ensure that the network is at all times operational where possible. It is impossible to guard against all computer viruses and when a virus threat is detected and the scope of the problem is too much for one person to handle he/she should be allowed to escalate the problem to contain the virus as quickly as possible. The quicker the response the more likely it will be that data corruption is limited and data protected against outside exposure and exploitation.
- 6.2.4 All e-mail that is received should be scanned for both spam mail and virus threats received via e-mail. This can be done at both the server and the workstation and should be used to ensure added protection of the network and the computers on the network.
- 6.2.5 Along with a recognised anti-virus application for the server and workstations there should also be a recognised firewall built into the system or installed as third party software. It should be noted as described above that Windows Internet Information Server is not considered a secure environment and firewalls should be properly configured to protect such services running. Where possible Internet Information Server should not be used as a web server that is connected to a secure network. No instances have been found where such servers have not been successfully penetrated by crackers and data exposed to the world or corrupted. Since this is a government network and a security environment it should therefore be protected by a reputable firewall famous for stopping threats to any network.

- 6.2.6 Firewall software should be installed on all computers accessing the Internet or a similar remote network such as a bank's secure site where access to the site is not gained through the Internet connection hosted by the file server. In such cases a dedicated link is made to the outside world and no protection is gained when a firewall is setup only on the file server. In such cases the computer does not make use of the file server at all and the data transmission is therefore not always safe. Although precautions may have been taken at the bank it might not be enough and access may be gained to the network via the computer connecting to the remote network.
- 6.2.7 All users should take care that although there might be good data recovery strategies available it does not guarantee that data corrupted by a computer virus will be recovered and restored. The support personnel or company can therefore not be held responsible for data that are lost due to computer viruses on the network or the distribution there-of by users. Support personnel can also not be held responsible for viruses that infect the network, bypassing anti-virus scanners in the process since viruses are developed nowadays to render anti-virus applications useless.
- 6.2.8 All firewalls and anti-virus applications should run on start-up, in other words while the computer is loading relevant files to render it operational and ready for input from the user of the computer. These software applications should not be unloaded or disabled unless specifically instructed by the support person.

7. SYSTEM DEVELOPMENT LIFE CYCLE

7.1 PURPOSE OF THE POLICY

To ensure that when an application is acquired, redeveloped or upgraded that it is economically viable and that all relevant challenges and needs are taken into account and that data integrity can be guaranteed. The whole process will not be discussed here in detail but a general overview of such a project will be given.

7.2 CONSIDERATIONS OF CUSTOM DEVELOPED APPLICATION SOFTWARE AND UPGRADES OF EXISTING APPLICATION SOFTWARE

- 7.2.1 When custom application software is considered for the municipality care should be taken that it is economically the best option available due to the nature and timeframe of the development of custom applications. It should also be considered that the nature of such expenditure is not always viable for such a small environment but would be best suited for larger environments and organisations with larger operations. The IT Specialist should investigate other alternatives in such a case and see where off-the-shelf software cannot be adapted or configured by using macros to perform the same task(s) as are needed from the custom application. If such an application does exist it would be better to reconfigure or use macros than to redevelop such an application.
- 7.2.2 The municipal manager of the municipality should ensure that all parts of the System Development Life Cycle (SDLC) are properly executed and that all steps are properly documented. All documentation should in the end be handed to the municipality to train personnel where needed and for later upgrades to be performed on the system.
- 7.2.3 The municipal manager should also ensure that the development of an application includes the application itself and not just a user fee or license to use the program for a period of time. This is common practice with certain system development companies that withdraw in the end leaving the organisation without an application and a bigger problem than before.
- 7.2.4 The software that is chosen should adhere to all the security and safety precautions implemented on the network to safeguard against disaster or data corruption. If it cannot the system should be changed or relevant security procedures should be put in place. If this is done at too high a cost then the system may not be worth having, especially if it nullifies all security on the network.

8. DATA MANAGEMENT

8.1 PURPOSE OF THE POLICY

The purpose of the policy is to define and accurately control all data generated or input on the network. Although some of this may have been covered earlier it is still relevant to discuss under this heading.

8.2 GENERATED AND INPUT DATA

8.2.1 All data that are input into any computer system using either a mouse, keyboard, microphone, scanner or any other input device is referred to as input data. This includes the data captured by scanner as part of the document management system that is planned for the future for this office and other government offices around the country. All such data are to be carefully captured and verified for correctness as to ensure that all information generated or derived from it is accurate and just.

8.2.2 Generated data is usually the result of captured or input data. This type of data is usually the sought after product when budgets are compiled and are dependent upon the input data. Both types of data should be protected by secure connections and firewalls and anti-virus software. Generated data may not be changed or altered unless the relevant input data was verified as captured incorrectly.

8.3 MANAGEMENT OF GENERATED AND INPUT DATA

8.3.1 All data is important to the municipality and should be verified as being correct before and during the capturing process and then also afterwards. This will ensure that data is correct and this will ensure that accurate data or information is generated.

8.3.2 All users should receive a specified amount of storage space on the file server where data can be kept that are work related under their own name. This directory or folder should be accessible to the user only and can contain all correspondence and work related information generated between him/her and the supervisor or municipality for whatever reason. It should however not contain any private files such as data or programs. The municipality's Head of the Department responsible for Information Technology should decide upon the size of the directory where users may create, modify and erase data pertaining to themselves and the work. It is the user's prerogative on what he/she saves in this directory as long as private and personal information is kept from the server.

8.3.3 Along with user home directories all functions should receive a space on the file server where data specifically pertaining to that job function can be kept. Such directories should have the name of the relevant function such as Finance or Personnel or Stock Control depending upon the functions and be accessible to the members of that function only. Only one or two people in such a function should receive rights to delete files from the directory or folder but all should be able to create new files, change the content there-of, view all the files and be able to generate output. These directories must contain data only pertaining to the function and not individuals unless data is generated in the name of an individual but it is applicable to the whole function. No private or personal data or programs may be kept in this directory.

- 8.3.4 A general directory or Intranet must be setup to publish data relevant to the whole municipality such as circulars for jobs, functions and new policies or general feedback to staff. Such a directory should be updated regularly and should only contain information relevant to all members of the municipality and should not contain personal or private data or programs. An Intranet will provide the function of feedback and keep the members of the municipality informed of work related issues and policies as well as social events and gatherings.
- 8.3.5 All generated data must be kept and should be verified only by an official verifier or auditor for example financial data input, input data for stock control and personnel related data. Generated data is dependent upon captured data and is normally used in feedback given to management or the public. Plans are formulated around generated data and it should therefore be properly managed and administered. Inaccurate data can lead to public condemnation and loss of support by the community.
- 8.3.6 All data irrespective of the type is important and should be protected against disaster and illegal access and corruption. Corrupted data is of no use and will ensure that systems fail or cancel as a result. All data that is captured or input into any system should be stored in one location. Data that is generated should be stored in a different location and Write, Erase and Modify access should only be granted to verifiers and auditors and members of management that needs this information to be available to them. No other person should have such access privileges or rights to the relevant directories or folders where such data is kept.
- 8.3.7 All data should be regularly backed up and it is advisable that data be kept for a period of at least 3 months off site for disaster recovery. A full backup should be done at least once per week with differential backups done daily to ensure that all data are properly backed up and that data can be restored if and when needed.
- 8.3.8 Data should not be stored in different locations but should be stored together to ensure easy access and backup of data. It would be senseless to have the same type of data such as expenditure for March in 10 different directories as opposed to have it in one directory. When data access strategies are compiled and implemented it should be understandable and easily available to those needing to access it and work with such data. Users should not be allowed to store such data in their own home directories but should be given a directory where to work and manipulate the relevant data they need to work with and share with other users.
- 8.3.9 Users that do store sensitive information on their home directories should be shown where to save it. Such data should then be transferred to a common directory or folder where all applicable users can work with it. Care should be taken that data are grouped together in other words financial information should be kept separately from personnel information and public relations information etc. It should be clearly defined where data is kept and access should be granted to those directories or folders only and not to data or information that is not necessary for the person to work with. This will combat confusion and lessen the occurrence of mistakes.
- 8.3.10 All data that is distributed must be authorised for distribution before it is sent out or published on an Internet or Intranet site or in printed press. Data that is published in the press or on the Internet must be published in accordance with government policy and laws governing the release of information on all levels of government as well as individuals.

9. ASSET MANAGEMENT

9.1 PURPOSE OF THE POLICY

The purpose of the policy is to assist in governing and controlling assets specifically in respect to Information Technology and to guide in the management of such assets.

9.2 USAGE OF INFORMATION TECHNOLOGY ASSETS

- 9.2.1 All equipment and software that are used in Information Technology are seen as assets to the municipality and must be properly managed and controlled to ensure optimum usage of such equipment. All Information Technology and Information Technology related assets should be controlled according to relevant laws, policies and instructions governing the control of such equipment for especially government organisations.
- 9.2.2 All Information Technology equipment and software acquired by the Municipality must be used by and for the Setsoto Local Municipality and the mandate that the municipality has in accordance with the laws of the country. The use of these assets must benefit not only the municipality but also the community that the municipality is instructed by law to attend to and oversee. The length of the usage should not be less than three (3) years. A common Information Technology solution should last between three (3) and five (5) years provided there is no dramatic change in technology.
- 9.2.3 The equipment and software should be used responsibly and within the manufacturers specifications and in no way be abused for personal gain, roughly handled to such an extent that the equipment may be damaged or use to further an organisation other than the government and municipality.
- 9.2.4 Components of the computer hardware may not be removed from the computers unless the computer fails due to normal usage or an act of God such as lightning or floods that renders the computer as a whole unusable but components there-of still usable. Such components should be allocated to government computers only and should be installed to improve such equipment where improvements are necessary and may not be sold or given to private individuals or organisations. This may include RAM chips, hard disks, processors (CPU's) and cables and even VGA adapters (screen cards).
- 9.2.5 All computer equipment that reached the end of life should be treated in accordance to government and National Treasury policies and procedures and GAMAP principles on equipment and assets reaching the end of life span. All equipment must be sold after properly written off and if there is no use of any sort for it in the organisation such as backup units while a computer is being repaired or community development centres or similar projects are run as part of the municipality's mandate to uplift and improve the community through such projects.

9.3 MANAGEMENT OF ASSETS AND RECORDKEEPING

- 9.3.1 All Information Technology assets must be listed in a register or inventory in either manual or electronic format and should be updated regularly. This inventory must be verified and spot checks on equipment should be done along with regular services. Because of the nature of Information Technology equipment and software it is very important to maintain strict control over it as abuse and theft can easily be committed. Software can be used on many computers without traces of such theft until checks are done. Using software illegally can result in all parties involved being charged with software piracy and theft and the onus is then on them to prove otherwise. Hardware components can show up easily as being stolen by checking system configurations against what was issued to personnel or installed on their computers. Common items stolen are RAM, cables and hard disks. In some cases processors (CPU's) have been stolen and replaced with one of a lower performance level.
- 9.3.2 A network and computer management program should be installed to keep track of computer and file server hardware configurations and indicate where changes have occurred on computers and file servers. It is not uncommon for such items to be stolen or taken and replaced by lesser components. Such programs are available to audit such equipment and report any changes according to the compiled configuration inventory for a computer or file server.
- 9.3.3 Regular audits should be carried out on computer equipment to control and manage Information Technology assets. Reports should be made out to the Office of the Municipal Manager responsible for Information Technology and the report must then be tabled to the Executive Committee to provide feedback. It should also serve as information on the management and control over assets within the municipality and govern any action against people guilty of contravening control and management policies and instructions over assets.
- 9.3.4 A regular stock take should also be held at least annually to ensure that the inventory held on the Information Technology equipment is still in order and that the computers are used where indicated. It should also reflect the status of the equipment and devaluation should be recorded for the equipment and the time it is in operation in accordance with the GAMAP principles. The stock take should also indicate according to the devaluation of the equipment the timeframe left in operation for this equipment.
- 9.3.5 Software must also be controlled and during this stock take the relevant information must be gathered to see whether all licensing agreements are adhered to. Where there are discrepancies it should be resolved in order to ensure that all products are properly Licensed and these products are in use on the computers indicated and fully licensed. Because software just go outdated and are replaced by newer, more powerful software the municipality must ensure that the best usage is made of software as it can be a costly investment. The software should be standardised and the same irrespective of when and where the computer was purchased. All software companies now have a shorter turn around time on software development, and if this is also taken into account it might cost the municipality more than it should. If software are kept and not upgraded for a period then money is saved. If the software is eventually replaced with the new computer then the hardware is upgraded and newer software can be kept. The older versions may also be kept in use to ensure uniformity and to save some money. It is not compulsory to upgrade software, nor is it advisable to do so every year or three years. This could ensure larger training bills and more personnel off duty more of the time for this training. Where freeware is used it will amount to less cost and then upgrading regularly may actually bring about change and better productivity.

- 9.3.6 As with cars computers do have moving parts and these parts are negatively affected by dust and smoke particles in the air. The equipment must be serviced at least every three (3) to six (6) months to clear away especially dust and to ensure that the components are not covered by dust which results in heat building up.
- 9.3.7 No person should smoke in the server room at all. No food or drink should be allowed in the server room as spillage may damage the equipment. It is also advisable and recommended that no person may smoke near computers as to ensure better protection and also better performance and longer life from the equipment. Since smoke can build up to dust it is prone to form a layer like dust and cause failure in sophisticated chips. Failure through heat build-up is common with computer equipment.
- 9.3.8 The movement of computer equipment must be done with a project plan as this movement usually affects other areas such as IP Addresses and network segments but especially hub population and configuration. In extreme cases such changes also meant a change in router configuration. Such a plan must reach the Office of the Municipal Manager responsible for Information Technology no later than at least thirty days in advance to ensure proper planning and to properly inform users of such movements and how they will be affected.

10. PATCH MANAGEMENT POLICY

10.1 PURPOSE OF THE POLICY

The purpose of this policy is to ensure that all computers and servers are patched correctly by implementing steps that are precautionary and not remedial.

10.2 PRIORITIZING WINDOWS DESKTOP PATCHES

This list covers the major categories of things that can be patched or updated in a typical desktop configuration and the order in which you should apply them whenever possible.

1. **Bios:** As with servers, start here. Managing BIOS updates across multiple systems is all the easier when they're of the same make and manufacturer, but it requires "hard" downtime: The computer has to be powered down and rebooted to apply the new BIOS, and the administrator usually has to baby-sit each system individually that will be upgraded. Fortunately, many PC manufacturers now allow centralized updates to BIOSes through a management application -- Altiris, for instance, has a management solution for Dell desktops and notebooks that allows remote BIOS updates.
2. **Device BIOSes:** These include things like BIOS updates for disk controllers, video cards or other devices. Device BIOS updates go into a separate category from regular BIOS updates for two reasons: One, they are easy to overlook and not often considered for desktops; two, you usually cannot update them en masse. For example: If you're administering a group of graphical workstations that need updates to their video card's BIOSes -- and the only way to do that is via a 16-bit DOS-based updater -- you'll probably have to do that by hand for each computer. However, if you could perform the update through a 32-bit Windows application, you could probably push out your Windows patches as you would any other update.
3. **Device drivers:** As with servers, one of the more common hardware device-driver updates published for a desktop computer is for the network controller. Make sure you test the update ahead of time. If you automate patching on a whole slew of machines with such a driver and the end result is that they're all knocked off the network, your only choice might be to either re-image them from scratch or fix each one manually.
4. **The OS:** Patching Windows OSes is the part almost everyone is directly familiar with and it needs relatively little elaboration here. One thing I'll add is something I also wrote about in the server version of this article: If there are device driver updates, they should be examined separately from other updates in case an OEM-provided version of the driver is more urgently needed.
5. **Middleware:** This normally includes elements such as ODBC drivers but should also include things like the Microsoft .NET Framework. Note that with the .NET Framework, the 1.1 and 2.0 iterations (and the upcoming 3.0 edition as well) exist side-by-side and don't eclipse each other.

6. **Application patches:** As with the OS and its attendant patches, you can roll out application patches through the usual automated mechanisms, and it should be done only after everything else has already been applied.

10.3 MANAGING YOUR PATCH TESTING BUDGET

The biggest Windows patch management costs related to creating a test lab are hardware and software. Although both are necessities, there are some ways that you can really hold down the costs. Let's talk about the hardware first.

One way you can economize on hardware is to purchase PCs instead of servers. If all you do is test the impact of occasional patches, then you don't need things like multiple processors and RAID arrays. You can save an absolute fortune just by using a basic PC with plenty of disk space and memory for testing purposes.

Another cost-saving technique is to use virtual machines. Products such as Microsoft's Virtual Server 2005 and VMware from VMware Inc. allow you to simultaneously run multiple virtual computers on a single physical computer.

10.4 REDUCE COST OF MICROSOFT PATCH MANAGEMENT SOFTWARE

Try using Windows patch evaluation software in your lab. Microsoft offers 120-day evaluation copies of most of their products for free. Therefore, if you are testing an entire patch management configuration, a single patch, an upgrade or whatever for less than 120 days, you could just download some evaluation software and not have to worry about the cost.

10.5 USING THIRD-PARTY PATCHES

Most of us have been there before. It's the beginning of the month, Patch Tuesday is about ten days away and we hear about a new exploit that we know we are susceptible to. At such a time, it's frustrating to know we have to wait for the second Tuesday of the month before a software fix arrives. You might think that deploying a third party patch is a good idea. Well, sometimes it is. And sometimes it isn't.

10.6 THE CONS OF THIRD-PARTY PATCHES

IT administrators deploying off-cycle patches from third parties, in many instances, will have no idea what the patch contains. So before you consider deploying an off-cycle patch, you should ask yourself how much you trust the company that produced it. Even patches from a company without any malicious intent can inadvertently be infected by malicious code.

In the worst case, if a company producing third-party patches has less than honorable intentions, it potentially could distribute a patch containing spyware or code that makes it easier to exploit the vulnerability that the patch supposedly addresses.

Another potential problem with deploying third-party patches is that these patches might break parts of your system that are currently running just fine. After all, in the case of a Windows patch at least, many of these fixes are actually replacing operating system code. Even the slightest change to code could have catastrophic effects.

10.7 THE PROS OF THIRD-PARTY PATCHES

In the opinion of some Windows security experts, the risk of accidentally introducing bugs or malicious code into a system, along with the risk of Microsoft not supporting the system, far outweighs the risk of having to wait for a legitimate Microsoft patch. After all, Microsoft does have a history of expediting patches for more serious security issues. At times, Microsoft even provides detailed instructions on how to protect a system against a newly discovered vulnerability until a patch can be produced.

Essentially then, the debate between using third-party patches and waiting for Microsoft patches comes down to an issue of timing. If you feel you are facing a serious Windows security vulnerability and Patch Tuesday is weeks away, you might want to run the risk that the third-party patch could produce bugs just to protect yourself from greater danger. If the risk is not so great, you might want to just wait for Microsoft to release their own patches.

10.8 WINDOWS PATCH MAINTENANCE AND POST-PATCH SECURITY

Be mindful of changes in general system behavior. If something is clearly wrong, it'll tend to announce itself. That said, this is a little easier to do when you are solely responsible for the system in question -- for instance, a server. If you deal with multiple workstations, stay close to one of the patched machines, if you can, and if anyone reports bizarre behaviors, you can investigate them and then try and duplicate them on your own "pet" machine.

Inspect the system logs. Compare error logs both before and after a patch, and see if anything new or unusual jumps out at you. Sometimes it might not be anything, or it might be coincidental, but error logs are one of the best places to go to for concrete information about something not working correctly. This is especially important if what is going wrong has no other outward symptoms yet, except for a logged error. (Also keep in mind that some errors may simply be false alarms and have no real connection to anything; sometimes it can be hard to tell the difference.)

Check compatibility on any potentially affected applications. If there's a chance a given patch might affect the way a program works, test it before and after the fact. For instance, test a patch to a middleware component by making sure no database connections are suddenly throwing errors. In addition, make sure other non-trivial database operations that take place in your environment - - and that require middleware (like retrieving large amounts of data or opening many connections at once -- also get tested whenever possible.

10.9 ROLLING BACK WINDOWS PATCHES

- **Roll back by hand**

Microsoft's hotfixes and service packs for Windows come pre-equipped with their own Windows patch rollback mechanisms that can be activated manually if the need arises. If you want to uninstall a given hotfix, here's the procedure for doing so.

1. Set Explorer to show hidden and system files if you haven't already done so.
2. Open the **%SystemRoot%** directory and look for a series of directories with the name **\$NTUninstallKBXXXXXX\$,** where **XXXXXX** is the Knowledge Base article number for the hotfix in question.
3. Within that directory is another directory named **spuninst.**
4. Inside **spuninst** is an executable named **spuninst.exe.** Run it, and the hotfix in question will be rolled back through a Wizard interface.
5. If **spuninst.exe** doesn't work or is unavailable, type **batch spuninst.txt.** This executes a batch-file version of the same recovery options.

- **System restore**

Windows also has a global mechanism for restoring settings and components to an earlier state. It's one most of us should be familiar with: System Restore. This method is something of a brute force way to move back to before a hotfix was installed. And it's slow -- it can take many minutes for a System Restore to complete -- *but* it covers absolutely everything that might have been touched by a hotfix.

Be mindful, though. You cannot run System Restore from the Recovery Console, at least not without a good deal of manual hacking. However, you can run an individual patch rollback as described before from the Recovery Console.

- **Third-party software**

The most complete way of dealing with patch roll back is probably through a third-party package. Plenty of third-party software products exist for rolling a system back to an earlier state, with undoing changes made by patches as part of that.

10.10 FIXING POST-PATCH PROBLEMS: AUDITING REVISION LEVELS

Just because you patch something once doesn't mean that you won't have to patch it (or something else) later. The list below details how you can audit revision levels to fix problems after deploying Windows patches.

- **In Explorer:** The most obvious way to determine the revision of a component is just to right-click on it in Explorer and select Properties | Version. Or, you could switch to the Details view in Explorer and show the File Version and Product Version as columns. But, with this view, you

can't easily export the results. Note that .DLLs will have a Version tab, but .EXE files will not, so this limits its usefulness a bit.

- **Through Process Explorer:** The endlessly useful Process Explorer utility from Sysinternals lists the revision levels of all loaded components. If you click on the name of a process and select View | Lower Panel View | Show DLLs, you can see all of the loaded DLLs in use by that process as well as their revision levels. This is only useful for running processes, but the program does support exporting the information shown to a delimited text file. Note that it may take several seconds for the program to poll all the used .DLLs for a given process.
- **Through an external resource:** This method is best if you want to find out what other revisions there might be for a process or component. For Microsoft components, Microsoft itself has a site called DLL Help. There you can look up any component from a Microsoft or Microsoft-supported product, see all of the tracked revisions for the component and learn more about each of them. However, DLL Help is only useful for Microsoft components, not third-party apps.
- **Through a script:** This option is the most effective way to report back on a whole slew of components at once. For instance, use a script if you want to audit all of the items in a directory that represent what a patch will put into place, and you want to see a quick side-by-side comparison of component revision information. One such script is available online at JSWare and, with a little work, it can be used to obtain the revision information for all files that match a wildcard or are in a directory.

10.11 OPTIMIZE YOUR WSUS PERFORMANCE

Most of the time Windows Server Update Services (WSUS) does a pretty good job of deploying patches to computers throughout an organization. If you want to make sure that WSUS deploys each patch in as timely a manner as possible, then it's worth spending a little time to optimize the patch management process. WSUS is a Web application, so it doesn't have any settings of its own that are directly related to performance, but there are several WSUS settings that you can use to improve the efficiency of your patching operation though.

10.12 DOWNLOAD FILES WHEN AVAILABLE

One of the first things that is recommended in Windows patch management is configuring WSUS to download patches as soon as they are available, not when they are approved. Normally, patches are not downloaded until you approve them. The problem with that is that as soon as patches are approved, computers try to install them. If the patch has not yet been downloaded though, the update process has to stop and wait for the patch to be downloaded. This whole process can be made more efficient by downloading files as soon as they become available.

To change the download option:

- Open the WSUS Admin console and click the **Options** button in the upper left corner of the screen.
- When the **Options** screen appears, click the **Synchronization Options** link
- Scroll all the way to the bottom of the screen and click the **Advanced** button.
- The **Advanced Synchronization Options** dialog box will appear.
- Make sure that the **Store Update Files Locally** option is enabled and that the **Download Update Files to This Server Only When Updates Are Approved** option is not selected.

10.13 DOWNLOAD EXPRESS INSTALLATION FILES

By default, WSUS downloads patches and pushes those patches to the clients. As you can imagine though, if a patch is large or if you have a large number of clients, this method of installation can consume a considerable amount of network bandwidth and it may take a long time to update all of the clients.

Express installation files tend to be larger than the normal patches that WSUS downloads, which means that the download may take a little bit longer to complete. This extended download time is usually more than made up for by the reduced time and bandwidth requirements when updating clients.

11. FIREWALL POLICY

11.1 PURPOSE OF THE POLICY

The purpose of this policy is to ensure the protection of all computers and data on the network by implementing steps that are precautionary and not remedial. This includes computers making outside connections through secure channels and not through the file server.

11.2 PROFILE SETTINGS

You can use these policy settings to configure Windows Firewall for each kind of network profile.

TURN ON WINDOWS FIREWALL

DOMAIN PROFILE

On computers to which this policy is deployed, this policy setting controls Windows Firewall while the computers are connected to domain networks, such as at a workplace.

- **Yes** enables Windows Firewall on managed computers while they are connected to domain networks.
- **No** disables Windows Firewall on managed computers while they are connected to domain networks.

Recommended value: **Yes**

PRIVATE PROFILE

On computers to which this policy is deployed, this policy setting controls Windows Firewall while the computers are connected to trusted networks, such as a home network.

- **Yes** enables Windows Firewall on managed computers while they are connected to trusted networks.
- **No** disables Windows Firewall on managed computers while they are connected to trusted networks.

Recommended value: **Yes**

PUBLIC PROFILE

On computers to which this policy is deployed, this policy setting controls Windows Firewall while the computers are connected to untrusted networks at public places, such as at airports or coffee shops.

- **Yes** enables Windows Firewall on managed computers while they are connected to untrusted networks.
- **No** disables Windows Firewall on managed computers while they are connected to untrusted networks.

Recommended value: **Yes**

12. CONCLUSION

The network and Information Technology as a whole is very important to any organisation and abuse of such services may lead to large bills in support and repairs as well as security breaches in some cases. Unfortunately strict action is important and cannot be ignored and users should be made aware of such actions. There cannot be a scenario where freedom reigns on the network and users have free access to do as they please. It is very important to control and properly implement the policy to act as a tool to ensure such control and to ensure that the relevant performance and security levels are reached on the network and with Information Technology as a whole.

The policy on ensures the protection of the government employee and the interests of the government, locally, provincially and nationally. Without such control measures the transparency policy is not adhered to and a secure network becomes insecure, unstable and very expensive to maintain.

13. REFERENCES

- Microsoft Windows 2003 Server administrators Pocket Consultant 2nd Edition (William R. Stanek) ISBN 0-7356-2245-6
- Microsoft Windows Security Resource Kit 2nd Edition (Brian Komar) ISBN 0-7356-2174-8
- Microsoft Internet Security & Acceleration Server 2004 (Bud Ratliff & Jason Ballard) ISBN 0-7356-2188-8
- www.computer-policy.com
- www.attackprevention.com

14. ACCEPTANCE OF POLICY

All employees that are granted the use of I.T. equipment will be provided with a written copy of this policy.

Employees must sign the statement below as acceptance of this policy.

I, _____ ID. No. _____
(Full name printed)

Employee No. _____ hereby accepts the terms and conditions of the Setsoto Local Municipality's Information Technology Security Policy. I understand that disciplinary action will be instituted against me should I breach any clause of the said policy.

Signed at Setsoto Local Municipality on this ____ day of _____ 20____.

Signature

As witnesses: 1. _____
2. _____



Setsoto Local Municipality
Re Sebeletsa Katleho